EFFECTIVE: August 27, 2003

OWNER'S MANUAL

ELECTRIC CHAIN HOIST ES3 and NES SERIES

1/4 Ton through 5 Ton Capacity

Model, Lot, and Serial Number

⚠ WARNING

This equipment should not be installed, operated or maintained by any person who has not read and understood all the contents of this manual. Failure to read and comply with the contents of this manual can result in serious bodily injury or death, and/or property damage.

HARRINGTON
HOISTS AND CRANES

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8.0 Parts List

Parts list for the ES/NES hoist follows in sections 8.1 through 8.7.

The letters S and L in the hoist capacity designation (e.g. 1-S, 2-L) indicate Standard or Low lifting speed. Standard speed hoists will be single fall hoists and Low speed hoists will be double fall hoists, except for the 3 ton and 5 ton, which are Standard speed hoists that are double fall.

In the case of dual speed hoists, the letter D will follow the S (or L). For example ES010S (or NES010S) is a standard lifting speed, single speed hoist and ES010SD (or NES010SD) is a standard lifting speed hoist, with a dual speed motor (high speed will be the standard lifting speed, and low speed wil be a much slower lifting speed). A variation to the meaning of S is used in the Parts Listings. In the column "Parts per Hoist" S means Single speed, and D means Dual speed.

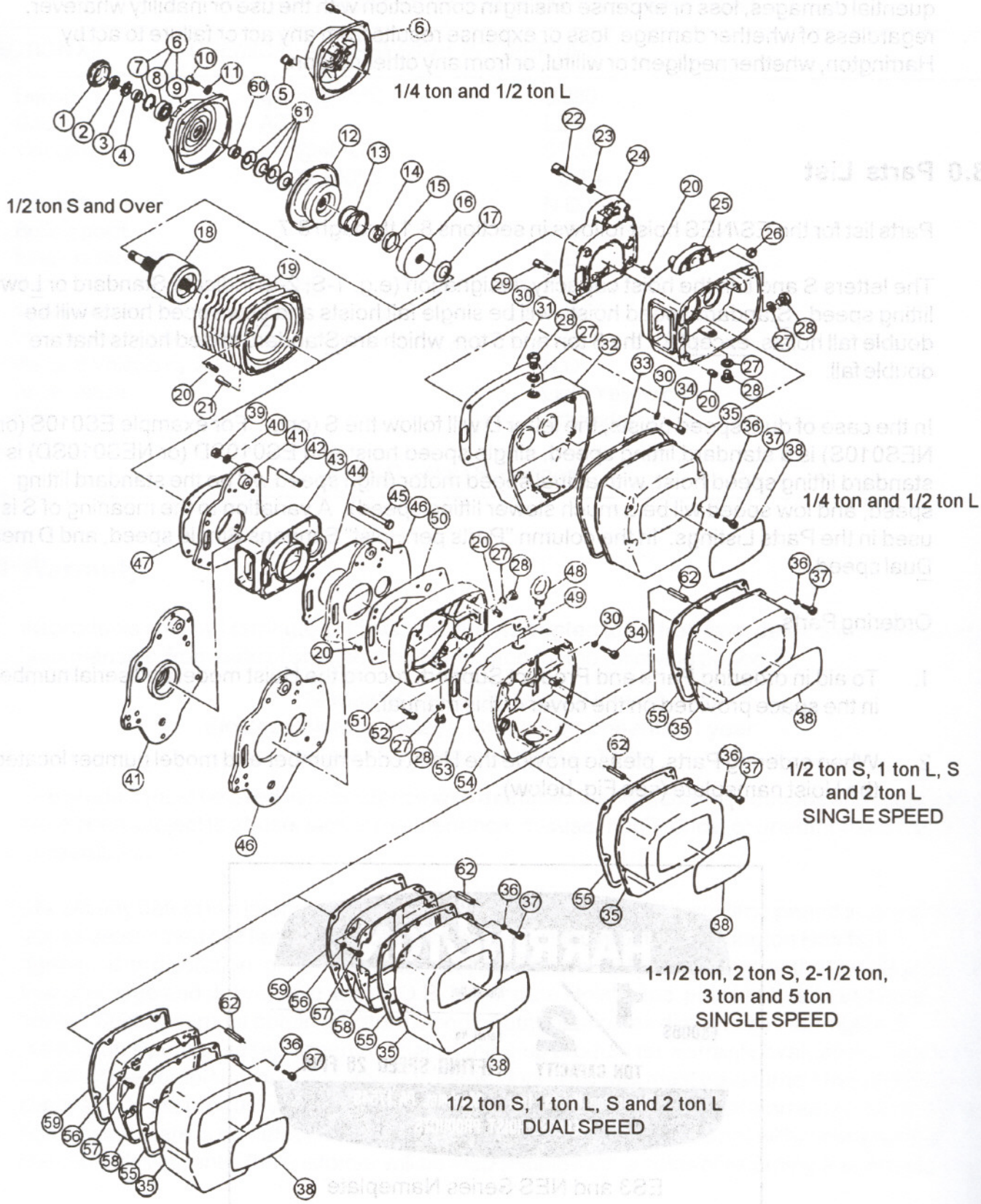
Ordering Parts

1. To aid in ordering Parts and Product Support, record the Hoist model and serial numbers in the space provided on the cover of this manual.

2. When ordering Parts, please provide the Hoist code number and model number located on the Hoist nameplate (see Fig. below).

ES3 and NES Series Nameplate

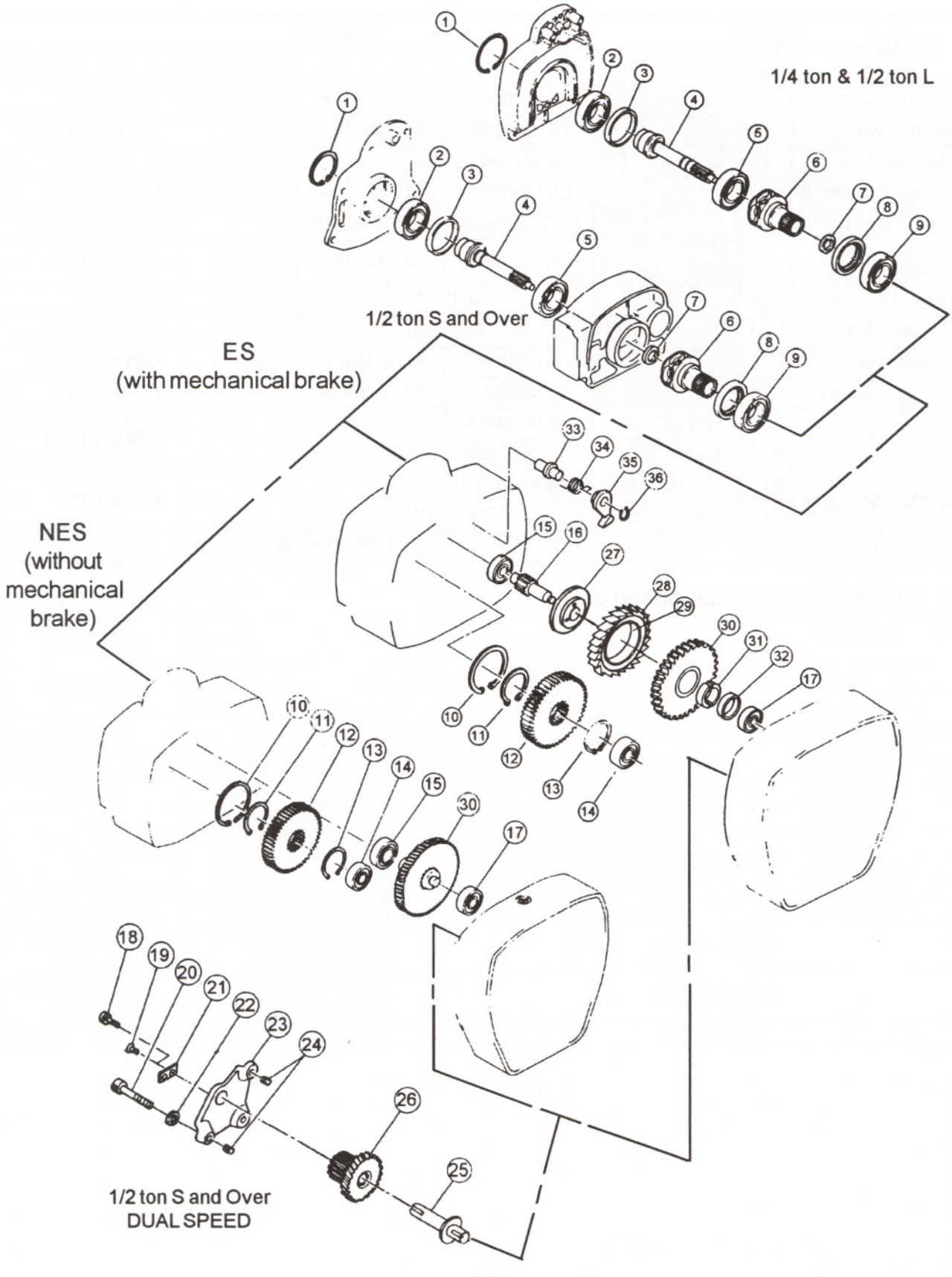
8.1 Housing and Motor Parts


1/4 ton and 1/2 ton L
1/2 ton S and Over
1/4 ton and 1/2 ton L
1/2 ton S, 1 ton L, S and 2 ton L SINGLE SPEED
1-1/2 ton, 2 ton S, 2-1/2 ton, 3 ton and 5 ton SINGLE SPEED
1/2 ton S, 1 ton L, S and 2 ton L DUAL SPEED
1-1/2ton, 2 ton S, 2-1/2 ton, 3 ton, and 5 ton DUAL SPEED

8.1 HOUSING AND MOTOR PARTS

Fig. No.	Part Name		Parts Per Hoist		Capacity										
					¼-S	½-L	½-S	1-L	1-S	2-L	1½-S	3-S	2-S	2½-S	5-S
1	Cover		S	1	ES108003						ES108015				
			D				ES1080101S								
2	Nut		S	1	ES217003		ES217005S				ES217015				
			D		ES217005S		ES217010S								
3	Lock Washer		S	1	ES218003		ES218005S				ES218015				
			D		ES218005S		ES218010S								
4	Spacer		S	1	ES216S003		ES216S005				ES216S015				
			D		ES216S005		ES216S010								
5	Plug			1	ES113003										
6	ES Motor Cover Assembly		S	1	ES5106S003		E3S5106005S		E3S510601S		E3S5106015				
			D		ES5106S005		E3S5106D005S		E3S5106D010S		E3S5106D015				
	NES Motor Cover Assembly		S	1	ES5106S003		E3S5106N005S		E3S5106N010S		E3S5106N015				
	7	Snap Ring	S	1	9047235		9047240				9047262				
			D		9047240		9047247								
	8	Ball Bearing	S	1	9001002		9001003				9001006				
			D		9001003		9001004								
10	Socket Bolt		S	4	9091249		9091273				90912114				
			D		9091272		9091294								
11	Spring Washer		S	1			9012711				9012713				
			D				9012712								
12	ES Brake Drum Assembly		S	1	ES5212003		E3S5212005S		E3S5212010S		E3S5212015				
			D		ES5212005S		E3S5212D005S		E3S5212D010S		E3S5212D015				
	NES Brake Drum Assembly		S	1	ES5212003		E3S5212N005S		E3S5212N010S		E3S5212N015				
13	Brake Spring		S	1	ES214003		ES214005S		ES214010S		ES214015				
			D		ES214D003		ES214D005S		ES214D010S		ES214D015				
14	Thrust Disc		S	2	ES505003				ES505010S		ES505015				
			D		ES505005S										
15	Thrust Collar		S	1	ES506003				ES506010S		ES506015				
			D		ES506005S										
16	Pull Rotor		S	1	ES503003				ES503010S		ES503015				
			D		ES503005S										
17	Coned Disc Spring		S	1	ES504003				E3S504010S		E3S504015				
			D		ES504005S										
18	Motor Shaft / Rotor		S	1	ES5502003		ES5502005S		ES5502010S		ES5502015				
			D		ES5502D003		ES5502D005S		ES5502D010S		ES5502D015				
19	Motor Frame / Stator		S	1	E3S5501003		E3S5501005S		E3S5501010S		E3S5501015				
			D		E3S5501D003		E3S5501D005S		E3S5501D010S		E3S5501D015				
20	Set Pin			4	ES120003										
				6			ES120003		ES120010S						
21	Socket Bolt			4	9091250		9091272		9091293		90912113				
22	Socket Bolt			2	9091257										

8.2 Gearing Parts



8.1 Housing and Motor Parts

Fig. No.	Part Name	Parts Per Hoist		Capacity										
				¼-S	½-L	½-S	1-L	1-S	2-L	1½-S	3-S	2-S	2½-S	5-S
23	Spring Washer		2	9012709										
24	Body M		1	ES102003										
25	Body G		1	ES101003										
26	U Nut/Cap		2	9098504										
27	Plug Packing		3	E3S112003										
			2			E3S112003								
28	Oil Plug		3	E3S111003										
			2			E3S111003								
29	Socket Bolt		2	9091252										
30	Toothed Lock Washer		6	9679709										
			4			9679709		9679711						
			5							9679711				
31	Gear Case Packing		1	ES109003										
32	Gear Case		1	ES103003										
33	Controller Cover Packing		1	ES110003										
34	Socket Bolt		4	9091253		9091255		9091279						
			5							9091280				
35	Controller Cover	S	1	ES104003		E3S104005S		E3S104010S		E3S10415				
		D				E3S104D005S		E3S104D010S						
36	Spring Washer		4	9012708						9012709				
37	Socket Bolt	S	4	9091229						9091250				
		D		9091230										
38	Name Plate	S	1	E3S800 + Capacity + Speed										
		D		ES800D + Capacity + Speed										
39	Nut		4			9093424		9093427		9093433				
40	Spring Washer		4			9012711		9012712		9012713				
41	Frame M Assembly		1			ES5122005S		ES5122010S		ES5122015				
42	Collar F		4			ES180005S		ES180010S		ES180015				
43	Body		1			ES101005S		ES101010S		ES101015				
44	Packing G		1			ES124005S		ES124010S		ES124015				
45	Bolt		4			9093110		9093134		9093158				
46	Frame G Assembly		1			ES5121005S		ES5121010S		ES5121015				
47	Packing M		1			ES163005S		ES163010S		ES163015				
48	ES Eyebolt M Assembly		1			ES5126005S								
	NES Eyebolt M Assembly		1			E3S126N003								
49	Eyebolt Packing		1			ES127005S								

8.1 Housing and Motor Parts

Fig. No.	Part Name	Parts Per Hoist		Capacity										
				¼-S	½-L	½-S	1-L	1-S	2-L	1½-S	3-S	2-S	2½-S	5-S
50	Gear Case Packing A		1			ES125005S		ES125010S		ES125015				
51	Gear Case A		1			ES100005S		ES100010S		ES100015				
52	Socket Bolt		6			9091250		9091273						
53	Gear Case Packing B		1			ES109005S		ES109010S		ES109015				
54	Gear Case B		1			ES103D005S		ES103D010S		E3S103D015				
55	Controller Cover Packing		1			ES110005S		ES110010S		ES110015				
*56	Spring Washer	D	4			9012708				9012711				
*57	Socket Bolt	D	4			9091229				9091274				
*58	Balancer	D	1			ES131005S		ES131010S		ES131015				
*59	Balancer Packing	D	1			ES132005S		ES132010S		ES132015				
60	Collar M	S	1	ES192003		ES192005S				ES192015				
		D		ES192005S		ES192010S								
61	Coned Disc Spring M	S	4	ES191003		E3S191005S				ES191015				
		D		ES191005S		E3S191010S								
62	Spring Pin		1	E3S129005S										

* Figure numbers 56 – 59 Dual Speed only.

8.2 GEARING PARTS

Fig. No.	Part Name	Parts Per Hoist		Capacity										
				¼-S	½-L	½-S	1-L	1-S	2-L	1½-S	3-S	2-S	2½-S	5-S
1	Snap Ring		1	9047247		9047268		9047275						
2	Ball Bearing		1	9000505		9000508		9000509						
3	Collar B		1	ES206003		ES206005S		ES206010S						
4	Pinion Assembly		1	ES1220003		E3S1220005S		E3S1220010S		E3S1220015				
5	Ball Bearing		1	9000505		9000508		9000509		9000610				
6	Load Sheave		1	ES228003		ES228005S		ES228010S		ES228015			ES228025	
7	Oil Seal		1	ES221003		ES221005S		ES221010S		ES221015				
8	Oil Seal		1	ES232003		ES232005S		ES232010S		ES232015				
9	Ball Bearing		1	9000107				9000108		9000110				
10	Snap Ring		1	9047262										
11	Snap Ring		1	9047135										
12	Load Gear	S	1	ES227003		E3S227005S		E3S227010S		E3S227015		E3S22-7020S		E3S227025
		D		ES227D003										
13	Snap Ring		1	9047135				9047140		9047150				
14	Ball Bearing		1	9000201				9000202		9000303				
15	Ball Bearing		1	9000103		9000104		9000304		9000405				
16	Gear #3	S	1	ES224003		E3S224005S		E3S224010S		E3S224015		E3S22-4020S		E3S224025
		D		ES224D003										
17	Ball Bearing		1	9000201		9000202		9000203		9000204				
*18	Machine Screw with Spring Washer	D	2							MS554010				
*19	Flat Head Machine Screw	D	2			9798532								
*20	Socket Bolt	D	3			9091252		9091274		9091275				
*21	Plate	D	1			ES244005S				ES244015				
*22	Spring Washer	D	3			9012709		9012711						
*23	Gear Holder-Plate	D	1			ES243005S		ES243010S		ES243015				
*24	Set Pin	D	2			ES120003		ES120010S						
*25	Gear B Shaft	D	1			ES242005S		ES242010S		ES242015				
*26	Gear B Assembly	D	1			E3S5241005S		E3S5241010S		E3S5241015				
27	Friction Disc		1	ES265003		E3S265005S		E3S265010S		E3S265015				
28	Ratchet Disc Assembly		1	E3S1263003		E3S1263005S		E3S1263010S		E3S1263015				
29	Bushing		1			E3S264005S		E3S264010S		E3S264015				
30	ES Gear #2	S	1	ES223003		E3S223005S		E3S223010S		E3S223015				
		D				E3S223D005S		E3S223D010S		E3S223D015				
	NES Gear #2	S	1	E3S5223N003		E3S5223N005S		E3S5223N010S		E3S5223N015		E3S5223-N020S		E3S5223N025
		D		E3S5223ND003		E3S5223ND005S		E3S5223ND010S		E3S5223ND015		E3S5223-ND020S		E3S5223ND025

8.2 Gearing Parts

Fig. No.	Part Name	Parts Per Hoist	Capacity										
			¼-S	½-L	½-S	1-L	1-S	2-L	1½-S	3-S	2-S	2½-S	5-S
31	Thrust Disc	2	ES266003		E3S266005S		E3S266010S		E3S266015				
32	Thrust Collar	1	ES267003		ES267005S		ES267010S		ES267015				
33	Pawl Pin	1	ES269003				ES269010S						
34	Pawl Spring	1	ES270003				ES270010S						
35	Pawl	1	ES268003				ES268010S						
36	Snap Ring	1	9047114				9047116						

*Figure numbers 18 - 26 Dual Speed only.

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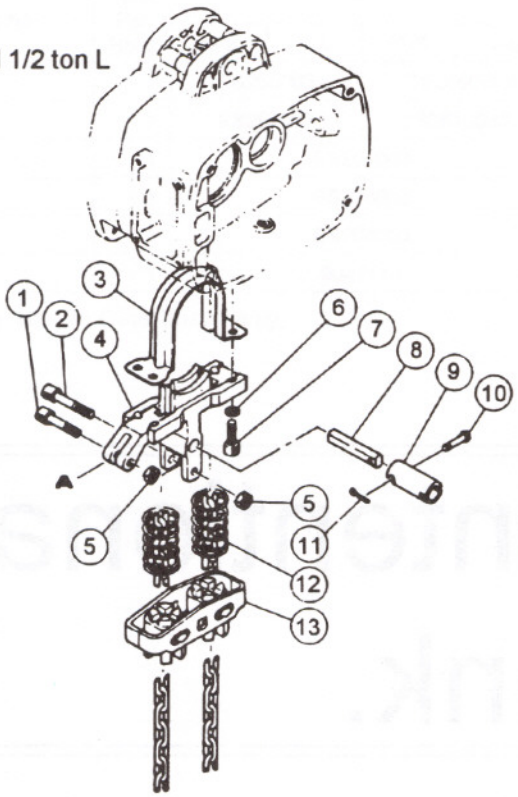
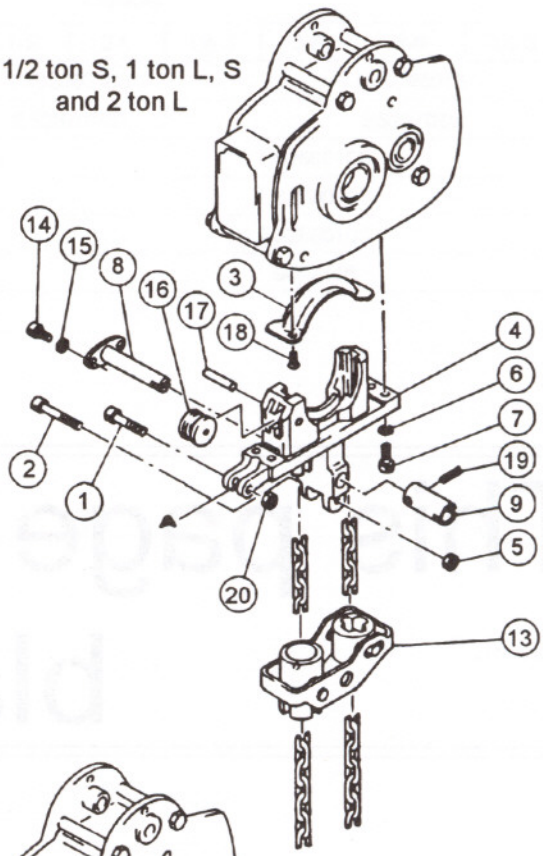
8.3 Chaining Parts

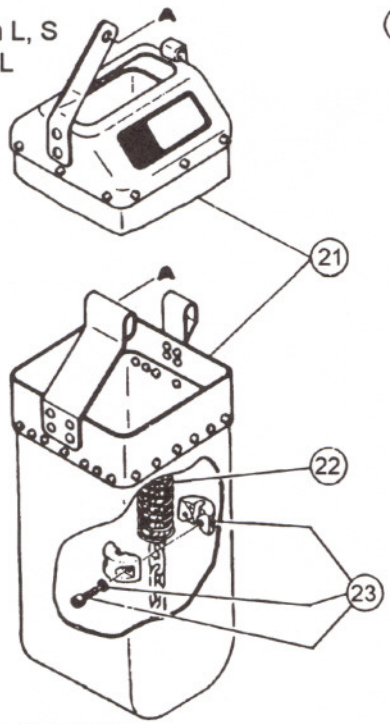
1/4 ton and 1/2 ton L



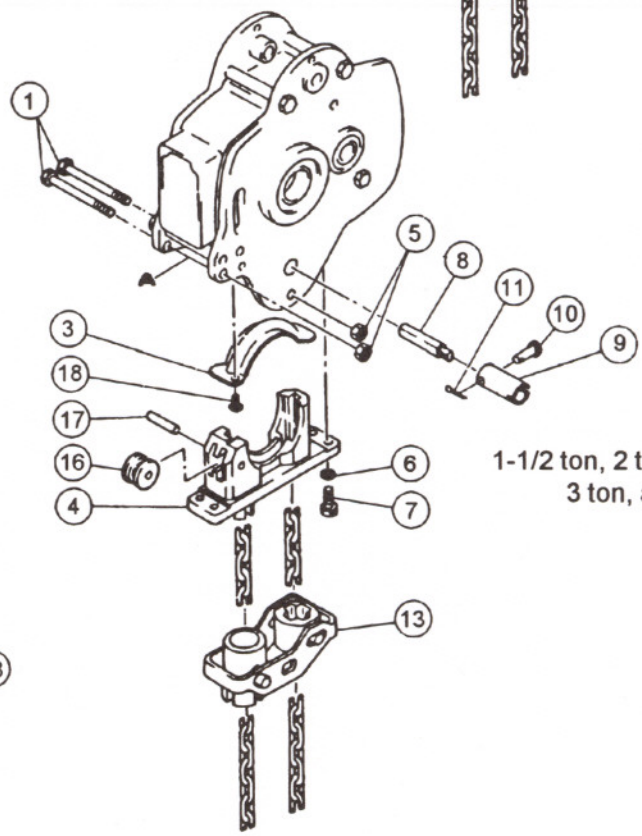
1/2 ton S, 1 ton L, S and 2 ton L



1/4 ton - 1 ton L, S and 2 ton L



1-1/2 ton, 2 ton S, 2-1/2 ton, 3 ton, and 5 ton

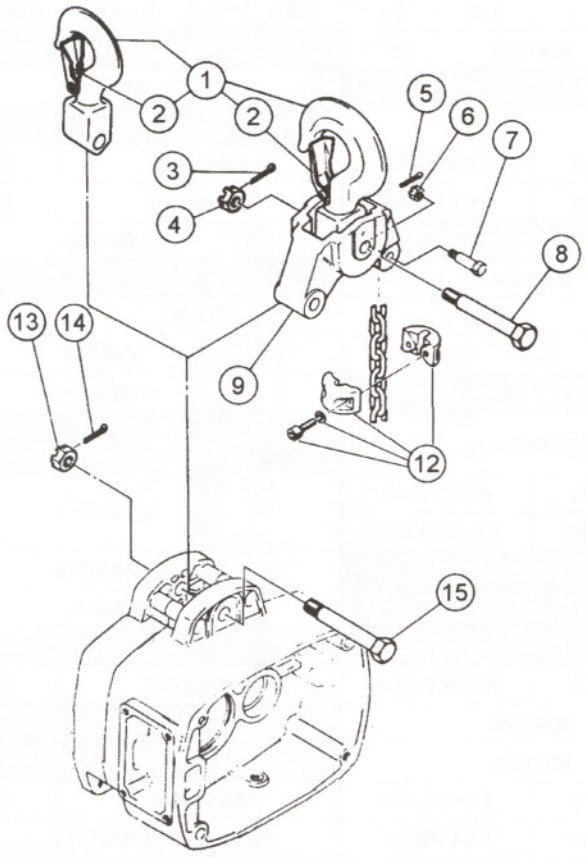


1-1/2 ton, 2 ton S, 2-1/2 ton, 3 ton, and 5 ton

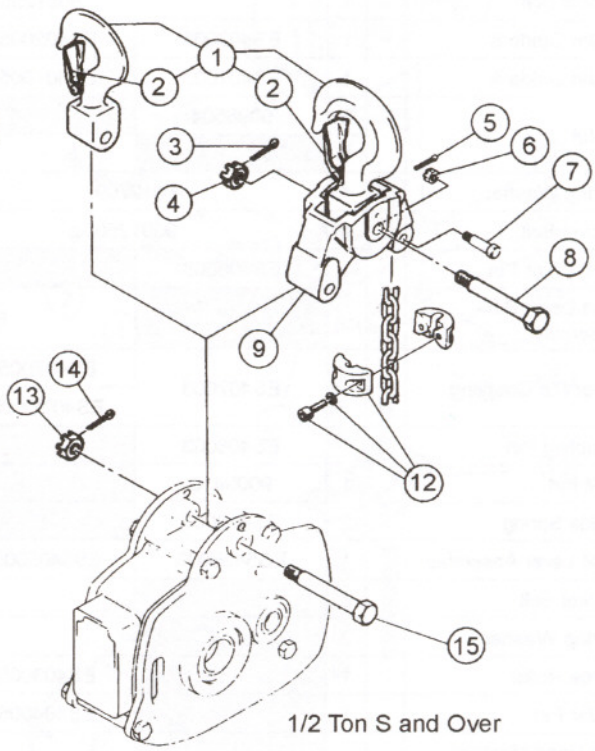
8.3 CHAINING PARTS

Fig. No.	Part Name	Parts Per Hoist		Capacity										
				¼-S	½-L	½-S	1-L	1-S	2-L	1½-S	3-S	2-S	2½-S	5-S
1	Socket Bolt		1	9091253		9091275								
	Bolt		2							90912108				
2	Socket Bolt		1	9091255										
3	Chain Guide B		1	ES402003		ES402005S		ES402010S		ES402015			ES402025	
4	Chain Guide A		1	ES401003		ES401005S		ES401010S		ES401015			ES401025	
5	U Nut		2	9098504						9098508				
			1			9098504								
6	Spring Washer		4	9012709				9012711						
7	Socket Bolt		4	9091250				9091272		9091273				
8	Limit Lever Pin		1	ES406003						ES406015				
	Limit Lever Pin Assembly					ES5406005S								
9	Lever Pin Coupling	S	1	ES407003		ES407005S		ES407010S		ES407015				
		D				ES407D005S		ES407D010S						
10	Coupling Pin		1	ES408003						ES408015				
11	Split Pin		1	9009410						9009410				
12	Guide Spring		2	ES410003										
13	Limit Lever Assembly		1	ES5405003		ES5405005S		ES5405010S		ES5405015			ES5405025	
14	Socket Bolt		2			9091246								
15	Spring Washer		2			9012709								
16	Guide Roller		1			ES403005S		ES403010S		ES403015			ES403025	
17	Roller Pin		1			ES404005S		ES404010S		ES404015				
18	Flat Head Machine Screw		2			9798534								
	Machine Screw with Spring Washer									E6F151003				
19	Spring Pin		1			ES451005S								
20	U Nut		1			9098506								
21	Chain Container L		1	ES5830003		ES5830005S		ES5830010S		ES5830015				
22	Chain Spring	S	1	ES047003		ES047005S		ES047010S		ES047015			ES047025	
		D		ES047D003		ES047D005S		ES047D010S		ES047D015			ES047D025	
23	Stopper Assembly		1	ES1045003		ES1045005S				ES1045015			ES1045025	

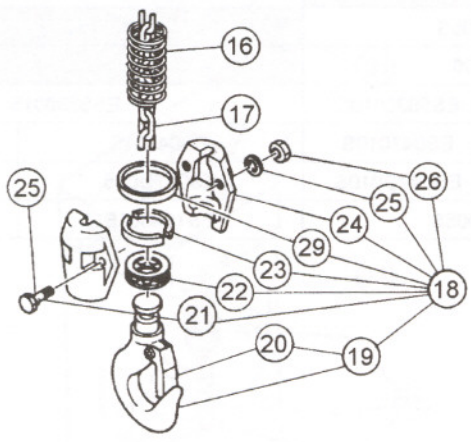
8.4 Hook Parts

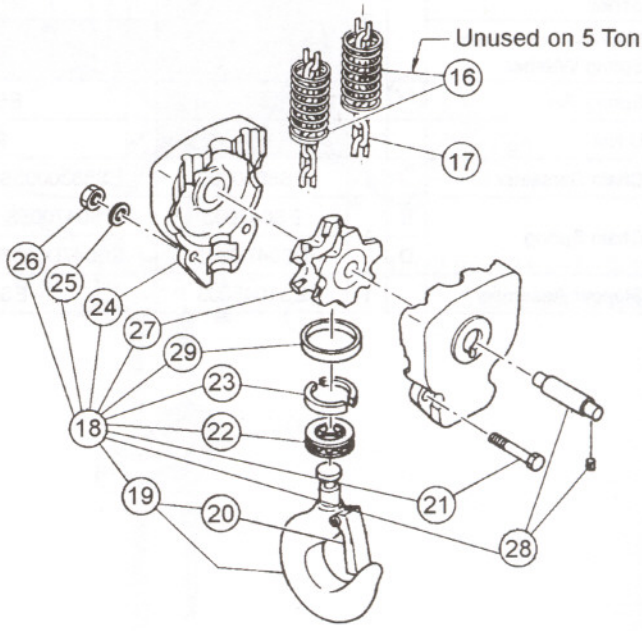


1/4 Ton and 1/2 Ton L



1/2 Ton S and Over





8.4 HOOK PARTS

Fig. No.	Part Name		Parts Per Hoist		Capacity										
					¼-S	½-L	½-S	1-L	1-S	2-L	1½-S	3-S	2-S	2½-S	5-S
1	Top Hook Assembly			1	ES1001003			ES1001010L		ES1001015		ES100-1025	ES100-1015	ES100-1025	ES100-1050
	2	Latch Assembly		1	CF071010			CF071015		CF071030		M3072-050	CF071-030	M3072-050	CF071-050
3	Split Pin			1		9009414		9009414		9009425		9009425			9009426
4	Slotted Nut			1		ES088-005L		ES088-005L		ES088-020L		ES088-020L			ES088-050
5	Split Pin			1		9009403		9009403		9009413		9009413			9009415-5
6	Slotted Nut			1		M3049005		M3049-005		M2049-101		M2049-020			M2049-030
7	Chain Pin			1		ES0410-05L		ES0410-10L		ES041-020L		ES041-030			ES041-050
8	Top Pin L			1		ES0060-05L		ES0060-05L		ES006-020L		ES006-020L			ES006-050
9	Connection Yoke			1		ES0050-05L		ES0050-10L		ES005-020L		ES005-030			ES005-050
12	Stopper Assembly			1		ES1045-003		ES1045-005S		ES104-5005S		ES104-5015			ES104-5025
13	Slotted Nut			1	ES088005L							ES088020L			
14	Split Pin			1	9009414							9009425			
15	Top Pin			1	ES117003		ES117005S		ES117010S			ES117015			
16	Chain Spring	S		1	ES047-003		ES047-005S		ES047-010S		ES047-015		ES047-015	ES047025	
				2		ES047-003		ES047-005S		ES047-010S		ES047-015			
		D		1	ES047 D003		ES047-D005S		ES047-D010S		ES047-D015		ES047-D015	ES047-D025	ES047-D050
				2		ES047-D003		ES047-D005S		ES047-D010S		ES047-D015			
17	Load Chain			Ft	LCER003C		LCER005C		LCES010		LCER020C			LCER025C	
18	Bottom Hook Complete Set			1	ES102-1003	ES102-1005L	ES102-1005S	ES102-1010L	ES102-1010S	ES102-1020L	ES102-1015	ES102-1030	ES102-1020S	ES102-1025	ES102-1050
	19	Bottom Hook Assembly		1	ES202-1003	ES2021005L		ES2021010L		ES202-1020S	ES202-1015	ES202-1030	ES202-1020S	ES202-1025	ES202-1050
		20 Latch Assembly		1	CF071010			CF071015		CF071-030	CF071-020	M3072-050	CF071030		CF071-050
	21	High Strength Bolt		2	ES082-003		ES082-003		ES082-010S		ES082-015		ES082-015	ES082-025	
		Bolt		2		ES082-003		ES082-010S		ES082-010S					
				3								ES082-025			ES082-050
	22	Thrust Bearing		1	ES022003			ES022010L		ES022015		ES022025	ES022015	ES022025	ES022050
	23	Hook Stopper		2	ES027003			ES027010L		ES027015		ES027025	ES027015	ES027025	ES027050
	24	Bottom Yoke Assembly		1	ES032-003	ES032-005L	ES032-005S	ES032-010L	ES032-010S	ES032-020L	ES032-015	ES032-030	ES032-020S	ES032-025	ES032-050
	25	Spring Washer		2	9012709			9012711			9012712		9012712	9012713	
				3								9012712			9012713

8.4 Hook Parts

Fig. No.		Part Name	Parts Per Hoist		Capacity										
					¼-S	½-L	½-S	1-L	1-S	2-L	1½-S	3-S	2-S	2½-S	5-S
	26	Nut		2	9093420			9093424			9093427		9093427	9093433	9093425
				3								9093427			
	27	Idle Sheave Assembly		1		ES1051-005L		ES1051-010L		ES1051-020L		ES1051-030			ES1051-050
	28	Bottom Shaft Assembly		1		ES5054-005L		ES5054-010L		ES5054-020L		ES5054-030			ES5054-050
	29	Thrust Collar A		1	ES026003			ES026010L		ES026015		ES026-025	ES026-015	ES026-025	ES026-050

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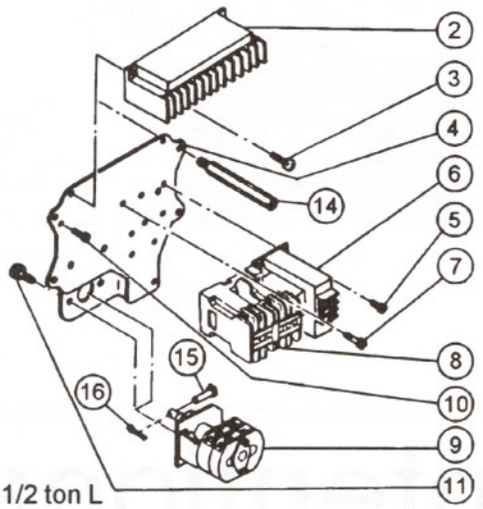
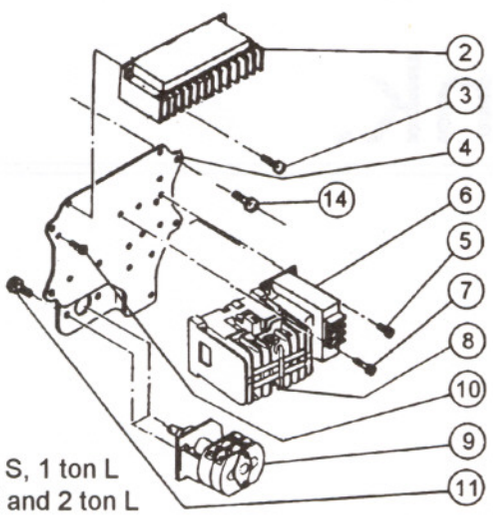
8.5 Electric Parts

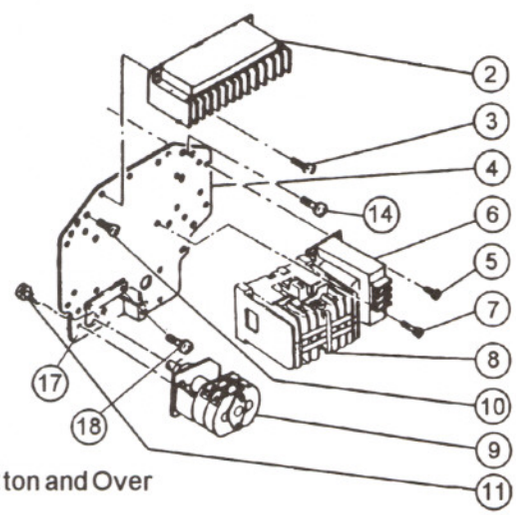
SINGLE SPEED



1/4 and 1/2 ton L

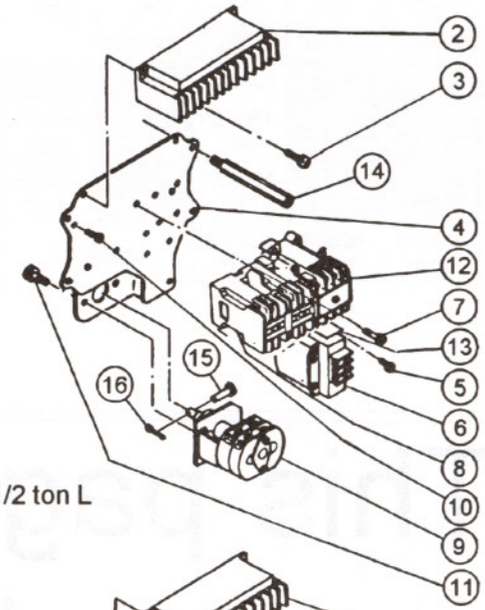


1/2 ton S, 1 ton L
1 ton S and 2 ton L

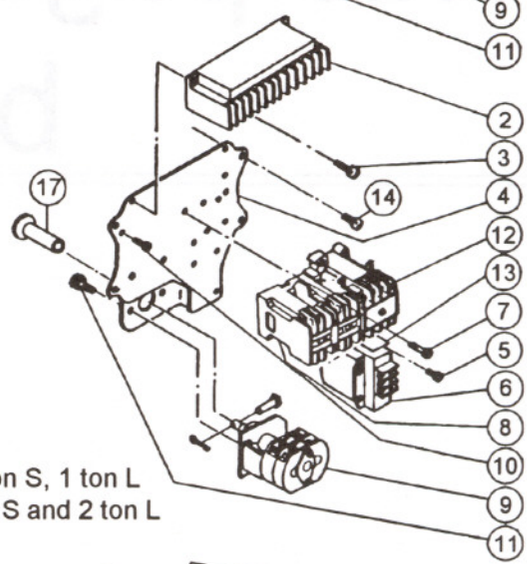


1-1/2ton and Over

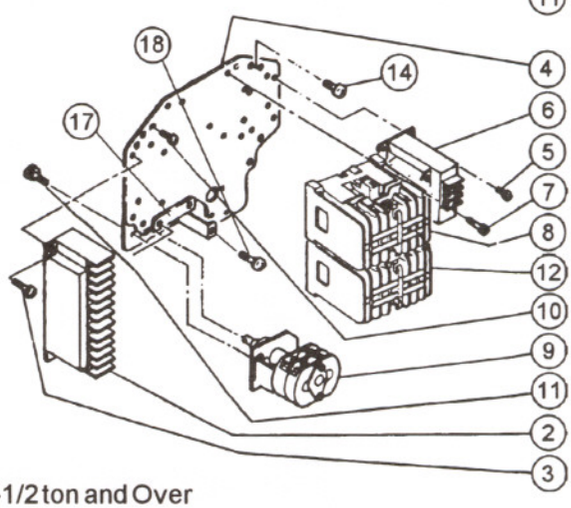
DUAL SPEED



1/4 and 1/2 ton L



1/2 ton S, 1 ton L
1 ton S and 2 ton L



1-1/2ton and Over

8.5 Electric Parts

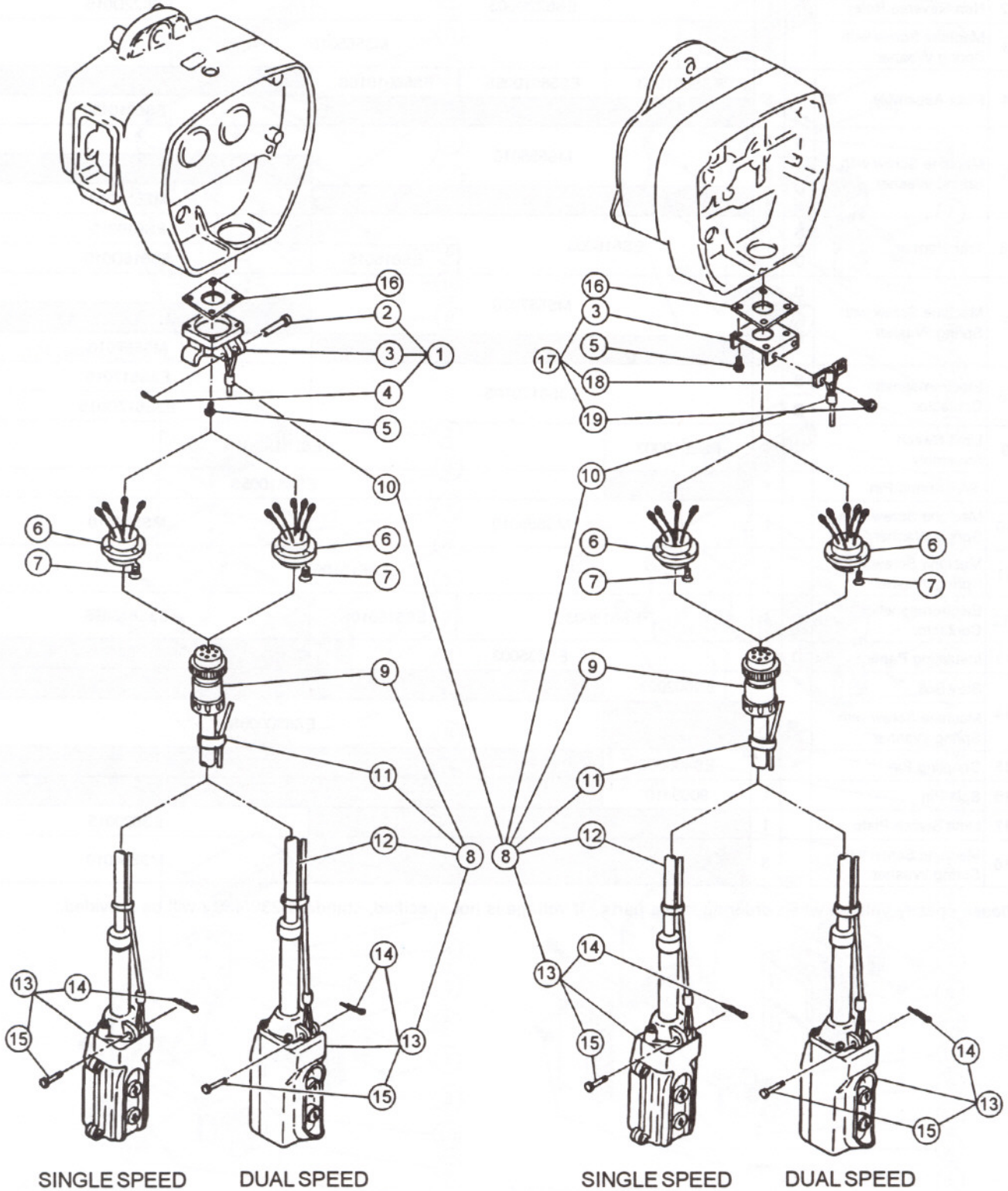
Fig. No.	Part Name		Parts Per Hoist	Capacity										
				¼-S	½-L	½-S	1-L	1-S	2-L	1½-S	3-S	2-S	2½-S	5-S
*2	Non-Reverse Relay		1	ES622D003						ES622D015				
3	Machine Screw with Spring Washer		2	MS555010										
4	Plate Assembly		1	ES5601003		ES5601005S		ES5601010S						
										ES601015				
5	Machine Screw with Spring Washer	S	4	MS555010										
		D	3											
			4							MS554010				
*6	Transformer	S	1	ES616003						ES616015				
		D						ES616015		ES616D015				
7	Machine Screw with Spring Washer	S	4	MS557010										
		D	6											
			8							MS557010				
*8	Electromagnetic Contactor	S	1	E3S617010S						E3S617015				
		D								E3S617D015				
9	Limit Switch Assembly		1	ES2619003		ES2619D015								
	9A Spring Pin		1			ES451005S								
10	Machine Screw with Spring Washer		1	MS555010						MS554010				
11	Machine Screw with Spring Washer		2	E6F151003										
*12	Electromagnetic Contactor	D	1	ES618003				ES618010S		E3S618015				
13	Insulating Paper	D	1	ES635003										
14	Stay Bolt		4	ES602003										
	Machine Screw with Spring Washer					ES650005S								
15	Coupling Pin		1	ES408003										
16	Split Pin		1	9009410										
17	Limit Switch Plate		1							ES620015				
18	Machine Screw with Spring Washer		3							MS554010				

*Please specify voltage when ordering these parts. If voltage is not specified, standard 230/460V will be provided.

8.6 Control Station Parts

1/4 ton - 1 ton L, S and 2 ton L

1-1/2 ton , 2 ton S, 2-1/2 ton, 3 ton and 5 ton



SINGLE SPEED DUAL SPEED SINGLE SPEED DUAL SPEED

8.6 Control Station Parts

Fig. No.	Part Name		Parts Per Hoist		Capacity										
					¼-S	½-L	½-S	1-L	1-S	2-L	1½-S	3-S	2-S	2½-S	5-
1	Socket Holder B Assembly			1	E3S1610003										
4	Machine Screw with Spring Washer			4	ES656003						M6F554010				
6	Socket 5P with 4 Leads		S	1	ES1614S015										
	Socket 5P with 5 Leads		D		ES1614D015										
7	Tapping Screw			4	ES558003										
	Flat Head Machine Screw										E3S658015				
8	2 Push Button Cord Complete Set		S	1	ES1605S003										
			D		ES1605D003										
	9	Plug 5P		1	E3S613003*										
	12	Push Button Cord 3C	S	1	16/3P										
		Push Button Cord 4C	D		16/4P										
	13	2 Push Button Switch Assembly	S	1	ES1615S003										
		2 Push Button Switch Assembly	D		ES1615D003										
		14 Split Pin		1	9009402										
		15 Cord Chain Pin		1	ES628003										
16	Socket Holder Packing			1	E3S609003						E3S609015				
17	Socket Holder B Assembly			1							E3S1610015				

* For cable with chain strain relief, use part number ES613003 for the correct 5P plug.

8.7 Power Supply Parts

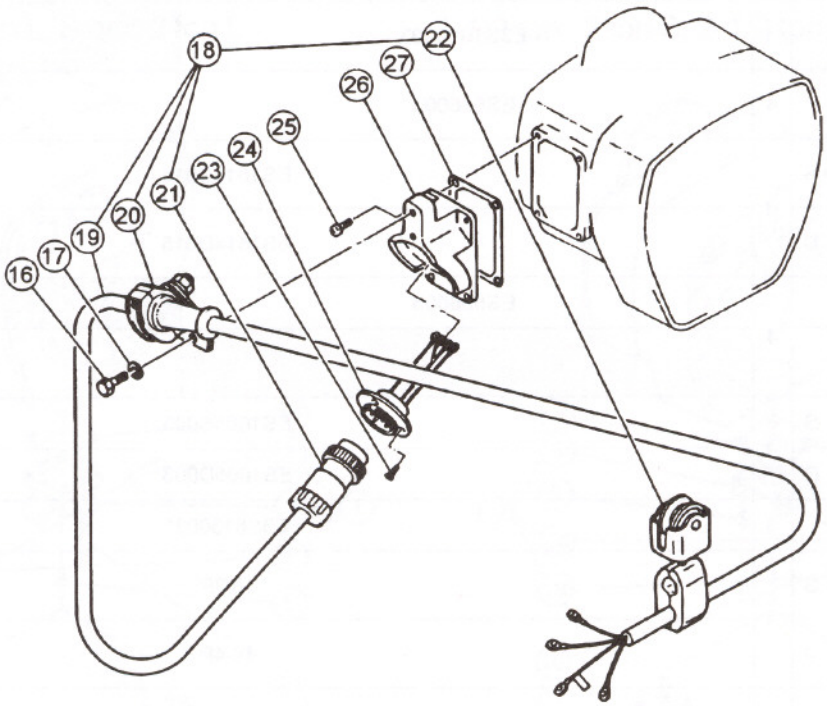


Fig. No.	Part Name		Parts Per Hoist	Capacity										
				¼-S	½-L	½-S	1-L	1-S	2-L	1½-S	3-S	2-S	2½-S	5-S
16	Bolt		2	9093325										
17	Spring Washer		2	9012711										
18	Power Supply Cable Complete Set		1	ES1521003						ES1521015				
	19	Power Supply Cable 4c	1	14/4										
	20	Cable Clamp Arm Assembly	1	ES1822003										
	21	Plug 4P	1	ES522003										
	22	Cable Hanger Assembly	3	ES1527003										
23	Flat Head Machine Screw		4	ES558003										
24	Socket 4P Assembly		1	ES1523003										
25	Machine Screw with Spring Washer		4	ES656003										
26	Socket Holder A		1	ES118003										
27	Socker Holder Packing A		1	ES119003										

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